Page

PART II (pp. 158-341)

Research on sugar plants and some practical adaptations. E. W. Brandes. 158

Report on 1939 tests of U.S. 200 x 215. G. H. Coons, et al. 165

Breeding for resistance to leaf spot and other characters. H. W. Dahlberg, A. C. Maxson, and H. E. Brewbaker. 169

Principal features of the seed accession system in use by The Great Western Sugar Company. H. E. Brewbaker. 181

Studies on some F_1 sugar beet hybrids. Frank F. Lynes and C. E. Cormany. 185

Further studies on sugar beet seed ball extracts with special reference to the toxicity of hydrolized ammonia. M. Stout and B. Tolman. 191

Resistance to Fusarium yellows in sugar beets. H. W. Bockstahler. 191

Section C. Sugar Beet Diseases - Chairman: G. H. Coons. 199

Effect of mosaic upon yield of seed by sugar beet roots. John O. Gaskill. 199

Relation of 8-inch and 16-inch spacing to curly-top infection and performance of certain curly-top-resistant varieties. Albert M. Murphy. 207

Verticillium wilt of sugar beets. John O. Gaskill and W. A. Kreutzer. 207

Black root of sugar beets in the Puget Sound district of Washington. Leo Campbell. 208

Boron deficiency of sugar beet in the Puget Sound district of Washington. Leo Campbell. 213

Soil and seed treatment experiments with sugar beets for control of seedling diseases. M. M. Afanasiev. 216

Seedling diseases, phosphate deficiency and Fusarium yellows of sugar beets in the rotations at the Huntley Field Station in Montana. M. M. Afanasiev. 219

Aphanomyces root rot of sugar beets as influenced by phosphate application. J. E. Kotila and G. H. Coons. 223

1939 field observations of black root occurrence. M. W. Sergeant. 226

Root-rot survey 1938-39 Great Western territory. A. C. Maxson. 228

Borax as a control for heart rot of sugar beets. R. L. Cook. 229

Page

Section D. Sugar Beet Insects - Chairman: C. R. Jones. 241

Aphids affecting sugar beets. Miriam A. Palmer. 241

Life history and control of the major leaf eating insect pests of the sugar beet, excluding grasshoppers. C. R. Jones. 244

Hemipterous insects affecting sugar beets grown for seed. Orin A. Hills and V. E. Romney. 250

Section E. Sugar beet machinery - Chairman: H. B. Walker. 252

Development and performance of single seed sugar beet planters. S. W. McBirney. 252

Field tests of mechanical blocking and thinning of sugar beets. E. M. Mervine. 256

Some field practices and new harvesting machinery in use in Iowa, Minnesota and Eastern North Dakota.

Cross blocking and hill planting of sugar beets. P. T. Robinson. 258

Experiments with non-thinning of sugar beets, also harvesting and loading of the beet crop in Iowa, southern and northwestern Minnesota and eastern North Dakota. O. A. Holkesvig. 259

Cross cultivation and check row seedling practices in use in Iowa, Minnesota and eastern North Dakota. A. G. Quamme. 262

Basic principles used in the development of an "in place" variable cut sugar beet topper. John B. Powers. 266

Sugar beet harvester tests 1938-39. Roy Bainer. 274

Sugar beet seed thresher and cleaning equipment. H. W. Bockstahler and R. F. Seamans. 282

Section F. Chemical - Chairman: H. W. Dahlberg. 284

Sulphites in sugar house products, origin and control. F.S.Ingalls. 284

Sugar loss in beets in storage. R. J. Smith. 286

A preliminary report of petiole analysis as an indication of the fertilizer requirements of sugar beets. C. R. Koontz and George Goldfain. 290

Composition of the soluble non-sugars in beets and their elimination during processing. A. R. Nees. 298

Relation between plant available phosphate and phosphate extracted by sodium acetate buffer in irrigated Rocky Mountain soils. R. J.Brown. 305

Page

Dry substance by drying versus dry substance by immersion refractometer as measured in the normal weight solution. F. R. Bachler. 313

The relations existing between pH measured in the laboratory at 25°C. and the pH of the same solution at the existing operating temperatures in the factory. F. R. Bachler. 318

Loss of nutrients from beet tops during storage in piles in the field. R. J. Brown. 328

Business Session 331

Constitution and By-Laws 339